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TRANSFER METHOD AND ADHESIVE FOR TRANSFER

BACKGROUND OF THE INVENTION

This invention relates to a transfer method and an adhesive for transfer.

5 The conventional method of creating a transfer sheet by ~~the~~ a copy machine or printer ~~is proposed by the inventor of the present invention;~~ consists of the user ~~have~~ having to transfer the transfer sheet by heating and pressing using the iron machine.

 Since the conventional transfer sheet created by ~~the~~ a copy machine and printer is transferred by using ~~the~~ an iron machine, it cannot be used ~~to the~~ by children who cannot
10 use the iron machine, and the ~~transferred object to transfer~~ application is limited in who can use it.

SUMMARY OF THE INVENTION

 Accordingly, it is an object of the invention to provide a transfer method and
15 an adhesive for transfer that everyone can perform to transfer ~~[[in]]~~ to any ~~transferred~~ object substrate simply and easily.

The lining and the board effect of the pattern for transfer etc. are achieved.

Novel features which are believed to be characteristic of the invention, both

as to its organization and method of operation, together with further objects and advantages thereof, are described below with reference to the accompanying drawings in which preferred embodiments of the invention are illustrated as an example.

It is to be expressly understood, however, that the drawings are for the purpose of illustration and description only, and are not intended as a definition of the limits of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a flow diagram showing a first embodiment of the present invention;

FIG. 2 is an explanation view of a step for applying an adhesive for transfer showing a first embodiment of the present invention;

FIG. 3 is a plan view of a transfer sheet showing a first embodiment of the present invention;

FIG. 4 is a cross sectional view taken along a line 4 – 4 of Fig. 3 showing a first embodiment of the present invention;

FIG. 5 is an explanation view of a step for transferring showing a first embodiment of the present invention;

FIG. 6 is a flow diagram showing a second embodiment of the present invention;

FIG. 7 is an explanation view of a step for applying an adhesive for transfer showing a second embodiment of the present invention;

FIG. 8 is an explanation view of a transfer sheet showing a second embodiment of the present invention;

5 FIG. 9 is a flow diagram showing a third embodiment of the present invention;

FIG. 10 is an explanation view of a step for applying an adhesive for transfer showing a third embodiment of the present invention;

FIG. 11 is an explanation view of a step for transferring showing a third embodiment of the present invention;

10 FIG. 12 is a flow diagram showing a fourth embodiment of the present invention;

FIG. 13 is an explanation view of a step for applying an adhesive for transfer showing a fourth embodiment of the present invention;

FIG. 14 is an explanation view of a step for transferring showing a fourth embodiment of the present invention;

15 FIG. 15 is a flow diagram showing a fifth embodiment of the present invention;

FIG. 16 is an explanation view of a step for transferring showing a fifth embodiment of the present invention;

20 FIG. 17 is an explanation view of a step for forming a coating layer showing a fifth embodiment of the present invention;

FIG. 18 is a flow diagram showing a sixth embodiment of the present invention;

FIG. 19 is an explanation view of a print sheet showing a sixth embodiment of the present invention;

5 FIG. 20 is an explanation view of a step for forming a transfer sheet showing a sixth embodiment of the present invention;

FIG. 21 is an explanation view of a step for transferring showing a sixth embodiment of the present invention;

10 FIG. 22 is a flow diagram showing a seventh embodiment of the present invention;

FIG. 23 is an explanation view of a printed sheet showing a seventh embodiment of the present invention; and

FIG. 24 is an explanation view of a step for forming a transfer sheet showing a seventh embodiment of the present invention.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Preferred embodiments of the present invention are described in more detail below with reference to the accompanying drawings.

20 Figs. 1 - 5 illustrate a transfer method and an adhesive for transfer in accordance with a first embodiment of the present invention. The numeral 1 shows a step for applying

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with, for example, a brush, an adhesive 4 for transfer to an upper surface of a pattern 3 for transfer formed on a transfer sheet 2 by ~~coping~~ copying or printing ~~in a brush 5 or the like.~~

As shown in FIG. 3 and FIG. 4, the transfer sheet 2 used in the adhesive application step 1 is comprised of a copy sheet or print sheet 9 and the pattern 3, the copy sheet or print sheet

5 9 having ~~with~~ a remover layer 8 which is formed after a remover 7 is applied or adhered to a liner sheet 6; and the pattern 3 for transfer ~~including~~ includes the character, picture, etc. which is copied or printed[[,]] and is formed using a resin toner on the upper surface of the remover layer 8 of the copy sheet or the print sheet 9.

Moreover, the adhesive 4 for transfer is a hot-melt adhesive or water-soluble or
10 alcohol soluble adhesive including acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, silicon rubber adhesive and the like. The adhesive 4 has a surface tension such that it will spread on the upper surface of the pattern 3, ~~for transfer,~~ and the surface tension of the upper surface of the pattern 3 being [[is]] larger than ~~that~~ the surface tension of water
15 so that the adhesive 4 can move [[on]] to the remover layer 8 ~~with the surface tension.~~

For this reason, since the adhesive 4 for transfer is applied [[in]] on the upper surface of the pattern 3 for transfer of the transfer sheet 2, the adhesive moves smoothly on the upper surface of the pattern because of the surface tension of the adhesive, the adhesive 4 applied [[in]] on the remover ~~layers~~ layer 8 other than the pattern 3 for transfer ~~moves~~
20 ~~smoothly on the upper surface of the pattern by the surface tension of this adhesive 4 for~~

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~~transfer and the slip slips off~~ [[of]] the upper surface of the remover layer 8, and adherence
is therefore it can be prevented [[to]] ~~from adhere~~ the part other than the pattern 3 to obtain
better transfer of only the pattern 3 for transfer efficiently.

The numeral 10 shows a step for transferring including over-transferring. The
5 transfer step is performed one or more times and includes removing to remove the liner
sheet 6 of the transfer sheet 2 ~~one or more times~~ after the part ~~applied~~ with the adhesive 4 is
pushed or adhered fixedly with heating on a ~~transferred object~~ substrate 11 including a
cloth, sheet, glass and a container. Although the transfer step 10 is performed once in the
embodiment of present invention, it can be transferred ~~into~~ onto a curved surface portion as
10 well as a plane surface when there is a portion that can be adhered to the adhesive 4 for
transfer.

Since the above-mentioned transfer method only uses the adhesive 4 for transfer,
everyone can transfer easily, and it can be transferred to any object and expand the range of
what to transfer on.

15 Other embodiments of the present invention will now be described with reference
to Figs. 6 - 24. In Figs. 6 - 24, the same components as in the first embodiment described
above with reference to Figs. 6 - 24 are designated by the same reference numerals and
therefore will not be further explained in great detail.

A second embodiment of the present invention is shown in Figs. 6 - 8. It is
20 distinguished from the first embodiment in that the transfer sheet 2 is replaced ~~from~~ with

another transfer sheet 2A that is comprised of a copy sheet or print sheet 9A and the pattern
for transfer, the copy sheet or print sheet having ~~that has~~ a remover sheet 12 as the remover
 layer 8; ~~and~~ the pattern for transfer being ~~that is~~ copied or printed on the ~~remove~~ remover
 sheet 12. A transfer method with an adhesive application step 1A according to the second
 5 embodiment has similar advantages to that according to the first embodiment.

A third embodiment of the present invention is shown in Figs. 9 - 11. It is
 distinguished from the first embodiment in that the adhesive 4 is replaced ~~from another~~ by
 adhesive 4A for transfer which is ~~the~~ a water-soluble or alcohol soluble adhesive including
 acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber
 10 adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, silicon rubber adhesive
 and the like and which can be colored with a paint 13. A transfer method with an adhesive
 application step 1B according to the third embodiment has similar advantages to that
 according to the first embodiment, and the lining and the board effect are achieved ~~[[for]]~~
by the adhesive layer formed by ~~[[of]]~~ the application of the adhesive 4A for transfer by
 15 coloring the adhesive 4A with a paint 13.

~~Especially, although~~ Although the color ~~[[of]]~~ white ~~[[is]]~~ does not exist in the
 pattern 3 for transfer of the transfer sheet 2A formed by ~~copying~~ copying or printing, this
situation ~~the fault of the transfer sheet 2A~~ is resolved by ~~setting~~ adding white coloring to
 adhesive 4A for transfer.

20 A fourth embodiment of the present invention is shown in Figs. 12 - 14. It is

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distinguished from the second embodiment in that the adhesive application step 1A is replaced ~~from another~~ with step 1C and the transfer step 10 is replaced ~~from another~~ with step 10A. In the adhesive application step 1C, an adhesive 4B is applied. The adhesive 4B, with which adds flexibility to the upper surface of the pattern for transfer of the transfer sheet 2 or to the transferred surface of the ~~transferred object~~ substrate 11 and which has staining properties ~~which can color~~ such that it can be colored with paint 13, is acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, silicon rubber adhesive and the like. In the transfer step 10A, the liner sheet is removed after the part applied with the adhesive 4B is pressed to the ~~transferred object~~ substrate 11 or after the pattern 3 for transfer of the transfer sheet 2 is adhered fixedly to the part of the substrate 11 applied where the adhesive 4B has been applied ~~of the transferred surface of the transferred object~~ 11. A transfer method with an adhesive application step 1C according to the fourth embodiment has similar advantages to that according to the second embodiment.

A fifth embodiment of the present invention is shown in Figs. 15 - 17. It is distinguished from the first embodiment in that the transfer step 10 is replaced ~~from another~~ with step 10B and a step 16 for forming a coating layer, step 16 being [[is]] performed after the transfer step 10B is carried out. ~~In the transfer~~ Transfer step 10B, ~~the work which includes removing~~ removes the liner sheet 6 of the transfer sheet 2, is carried out at least two times in order that [[a]] transferred ~~picture~~ pictures 14 [[is]] are transferred

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at different ~~position~~ positions relative to each other or at overlapped ~~position~~ positions on each other after the part where ~~applied~~ the adhesive 4 is applied is pushed or adhered fixedly with heating on a substrate ~~transferred object~~ 11 including a cloth, sheet, glass and a container. In the coating layer forming step 16, a quick-drying coat liquid 15, including a
5 top coat of the transparent or colored manicure, is formed into at least one layer after the transfer step is carried out. The ~~above-mention~~ above-mentioned step according to the fifth embodiment has similar advantages to that according to the first embodiment, and it can be honed to the three-dimensional transferred picture 14, where the coating layer covers the upper surface of the three-dimensional transfer picture 14 so that it can prevent ~~certainly~~
10 discoloring to discolor or other damage.

In addition, the more beautiful transferred picture 14 can be created by applying the colored coat liquid 15 according to the colors of the pattern for transfer, one method of applying being as is done in the way of when painting ~~drawing~~ a picture.

A sixth embodiment of the present invention is shown in Figs. 18 - 21. It is
15 distinguished from the first embodiment in that a step 17 for forming a transfer sheet 2B is carried out, after that, a step 21 for transferring is carried out. The transfer sheet 2B is comprised of the copy sheet or print sheet [[9]] 9B, the pattern 3, with the remover layer 8,
and the remover 7, wherein the remover layer 8 ~~which is~~ formed after the remover 7 is applied or adhered to the liner sheet 6; and the pattern 3 for transfer ~~which~~ is copied or
20 printed~~[[,]]~~ using a resin toner on the upper surface of the remover layer 8 of the copy sheet

or the print sheet 9B. In the transfer step 21, the pattern 3 or the upper surface of the pattern 3 for transfer of the transfer sheet 2B is transferred to the substrate ~~transferred object~~ 11 ~~with~~ by either adhering by transparent or semi-transparent adhesives 18 or hot-melt resin 19 or adding the heat of an iron 20. The ~~above-mention~~ above-mentioned transfer step according to the sixth embodiment has similar advantages to that according to the first embodiment.

A seventh embodiment of the present invention is shown in Figs. 22 - 24. It is distinguished from the sixth embodiment in that the forming step 17 is replaced ~~from another~~ with step 17A which forms a transfer sheet 2C with the pattern 3 formed on a remover sheet 22 of ~~the~~ a print sheet 9C adhered to the liner sheet 6, the pattern 3 being formed by ~~copying~~ copying or printing with ~~[[the]]~~ resin toner. The ~~above-mention~~ above-mentioned transfer step according to the seventh embodiment has similar advantages to that according to the sixth embodiment.

In the first to fourth embodiments of the present invention, the transfer step 10B ~~[[or]]~~ and/or the forming step 16 of the coating layer may be carried out.

As set forth above, the advantages of the invention are as follows:

(1) The transfer method is comprised of a step for applying an adhesive for transfer to an upper surface of a pattern for transfer formed on a transfer sheet by ~~with~~ ~~copying~~ copying or printing, the adhesive spreading on ~~moving to~~ the upper surface of the pattern by ~~[[a]]~~ surface tension, the adhesive for transfer ~~[[is]]~~ being one of a hot-melt

adhesive or water-soluble or alcohol soluble adhesive including acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, silicon rubber adhesive and the like; and a step for transferring including an over-transferring, the step for transferring being done one time or
 5 more and including removing a liner ~~performing to remove a sheet at least one time or more~~ after the part ~~applied with~~ the adhesive applied to it is pushed or adhered fixedly with heating on a ~~transferred-object~~ substrate so that everyone can easily perform the transfer work since only the pattern for transfer can be transferred by the application work of the adhesive for transfer[[,]].

10 Therefore, everyone can ~~enjoy~~ transfer freely.

(2) As discussed above, the quality of the material or form of the substrate ~~transferred-object~~ to transfer is not limited by the adhesive power of the adhesive for transfer, and the transfer object can be transferred to any substrate ~~transferred-object~~.

(3) As discussed above, the adhesive for transfer which is applied ~~adhered with the~~
 15 ~~exception of to~~ the upper part of the pattern for transfer can [[be]] move smoothly on the pattern for transfer because of ~~with~~ surface tension ~~etc.~~ when the adhesive for transfer is applied to the upper part of the pattern for transfer of the transfer sheet. [[.]]

Therefore, the amount of the adhesive which overflows from the pattern for transfer can be reduced remarkably, and the pattern can be transferred finely.

20 (4) As discussed above, the three-dimensional transferred picture can be created

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by the over-transferring ~~[[is]]~~ being performed ~~[[at]]~~ during the transfer step.

(5) ~~Also claim 2 achieves with the same effect as the~~ The above (1) to (4) can be achieved[[,]] with and a transfer method wherein the adhesive is one of a water-soluble and alcohol soluble adhesive including acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, and silicon rubber adhesive, wherein the adhesive can be colored by paint and wherein the lining and board effect are also achieved by the adhesive for transfer colored with paints.

(6) ~~Also claim 7 is acquired with the same action and effect as the~~ The above (1) to (4) can also be achieved with a transfer method wherein a pattern is formed on a remover layer of a transfer sheet by copying or printing and the pattern is transferred to a substrate or to another pattern wherein the transferring comprises adhering with transparent or semi-transparent adhesives or with using the heat of an iron to adhere with hot melt resins.

(7) ~~Also claim 10 is acquired with the same action and effect as the~~ The above (1) to (4) [[,]] can also be achieved with a transfer method comprising forming a pattern on a remover layer of a transfer sheet by copying or printing, applying adhesive to the pattern or to a substrate, the adhesive being one of an acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive and silicon rubber adhesive, the adhesive having flexibility and staining properties, and transferring the pattern one or more times by applying the pattern with

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adhesive to the substrate or applying the pattern without adhesive to the substrate with
adhesive, wherein ~~and the~~ a coating layer can cover the transferred picture[[,]] and [[it]]
can prevent ~~certainly to discolor~~ discoloration [[or]] and other damage.

ABSTRACT OF THE INVENTION

The A transfer method is comprised of a step for applying an adhesive for transfer to an upper surface of a pattern for transfer formed on a transfer sheet, the pattern
5 formed by ~~with coping~~ copying or printing, the adhesive ~~moving to~~ spreading over the upper surface of the pattern by [[a]] surface tension, the adhesive for transfer [[is]] being one of a hot-melt adhesive or water-soluble or alcohol soluble adhesive including acrylic pressure sensitive adhesive, polyvinyl acetate adhesive, chloroprene rubber adhesive, polyurethane resin adhesive, polyvinyl chloride adhesive, silicon rubber adhesive and the
10 like; and a step for transferring including an over-transferring, the transferring step being performed at least one time and including removing ~~performing to remove~~ a liner sheet at ~~least one time or more~~ after the part ~~applied~~ with the adhesive applied to it is pushed or adhered fixedly with heating on a ~~transferred object~~ substrate so that everyone can easily perform the transfer work and can transfer to any substrate ~~transferred object~~.

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